OVERVIEW

1. SD card reader
2. USB 3.2 Gen 1
3. Kensington Security Slot
4. HDMI 2.0
5. USB 3.2 Gen 1
6. Nano-SIM card slot *
7. Headphone / microphone combo jack (3.5mm)
8. Ethernet (RJ-45)
9. USB-C 3.2 Gen 1
10. 2x USB-C 3.2 Gen 2 / Thunderbolt 3
11. Power connector

Notes:
- Ports with * are only available on selected models
PERFORMANCE

Processor

Processor Family
10th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

<table>
<thead>
<tr>
<th>Processor Name</th>
<th>Cores</th>
<th>Threads</th>
<th>Base Frequency</th>
<th>Max Frequency</th>
<th>Cache</th>
<th>Memory Support</th>
<th>Processor Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core i5-10400H</td>
<td>4</td>
<td>8</td>
<td>2.6GHz</td>
<td>4.6GHz</td>
<td>8MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10750H</td>
<td>6</td>
<td>12</td>
<td>2.6GHz</td>
<td>5.0GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10850H</td>
<td>6</td>
<td>12</td>
<td>2.7GHz</td>
<td>5.1GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10875H</td>
<td>8</td>
<td>16</td>
<td>2.3GHz</td>
<td>5.1GHz</td>
<td>16MB</td>
<td>DDR4-3200</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i9-10850H</td>
<td>8</td>
<td>16</td>
<td>2.4GHz</td>
<td>5.3GHz</td>
<td>16MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i9-10980HK</td>
<td>8</td>
<td>16</td>
<td>2.4GHz</td>
<td>5.3GHz</td>
<td>16MB</td>
<td>DDR4-3200</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Xeon W-10855M</td>
<td>6</td>
<td>12</td>
<td>2.8GHz</td>
<td>5.1GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Xeon W-10885M</td>
<td>8</td>
<td>16</td>
<td>2.4GHz</td>
<td>5.3GHz</td>
<td>16MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
</tbody>
</table>

Operating System

Operating System**
- Windows® 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Fedora Linux
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**

<table>
<thead>
<tr>
<th>Graphics</th>
<th>Type</th>
<th>Memory</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVIDIA® Quadro® RTX 3000</td>
<td>Discrete</td>
<td>6GB GDDR6</td>
<td>Dynamic Boost 2.0, DirectX® 12</td>
</tr>
<tr>
<td>NVIDIA Quadro T1000</td>
<td>Discrete</td>
<td>4GB GDDR6</td>
<td>DirectX 12</td>
</tr>
<tr>
<td>NVIDIA Quadro T2000</td>
<td>Discrete</td>
<td>4GB GDDR5</td>
<td>DirectX 12</td>
</tr>
<tr>
<td>NVIDIA Quadro RTX 4000 with Max-Q Design</td>
<td>Discrete</td>
<td>8GB GDDR6</td>
<td>DirectX 12</td>
</tr>
<tr>
<td>NVIDIA Quadro RTX 5000 with Max-Q Design</td>
<td>Discrete</td>
<td>16GB GDDR6</td>
<td>DirectX 12</td>
</tr>
</tbody>
</table>

Monitor Support

Monitor Support
Supports up to 5 independent displays (native display and 4 external monitors via HDMI®, USB-C® and Thunderbolt™)
- HDMI supports up to 4K@60Hz
- USB-C supports up to 4K@60Hz
- Thunderbolt supports up to 4K@60Hz / 5K@60Hz

Chipset

Chipset
Intel WM490 chipset

Memory

Max Memory(i)
Up to 128GB DDR4-2933

Memory Slots
Four DDR4 SO-DIMM slots, dual-channel capable
Memory Type
- DDR4-2933 ECC
- DDR4-2933 non-ECC

Memory Protection
ECC on models with ECC DIMMs and Xeon processor

Notes:
1. The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.
2. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation

Storage
Storage Support
Up to two drives, 2x M.2 SSD
- M.2 2280 SSD up to 2TB

Storage Type

<table>
<thead>
<tr>
<th>Disk Type</th>
<th>Interface</th>
<th>RPM</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.2 2280 SSD</td>
<td>PCIe® NVMe®, PCIe 3.0 x4</td>
<td>-</td>
<td>Opal2</td>
</tr>
</tbody>
</table>

RAID
RAID 0/1 support

Notes:
1. The storage capacity supported is based on the test results with current Lenovo storage offerings. The system may support larger storage as the technology develops.

Removable Storage
Optical
None
Card Reader
SD card reader

Multi-Media
Audio Chip
High Definition (HD) Audio, Realtek® ALC3286 codec

Speakers
Stereo speakers, Dolby® Atmos®

Microphone
- Dual array microphone, far-field
- No microphone

Camera**
- HD 720p, with ThinkShutter, fixed focus
- IR & HD 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery
Battery
Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter

Max Battery Life®
MobileMark® 2014: 16.4 hr
MobileMark 2018: 10.3 hr
JEITA 2.0: 17.4 hr

Notes:
1. All battery life claims are approximate maximum and based on results using the MobileMark 2014, MobileMark 2018, JEITA 2.0, continuous 1080p video playback (with 150nits brightness and default volume level) or Google Power Load Test (PLT) battery-life
benchmark tests. Actual battery life will vary and depends on many factors such as product configuration and usage, software use, wireless functionality, power management settings, and screen brightness. The maximum capacity of the battery will decrease with time and use.

### Power Adapter

**Power Adapter**

- **170W slim tip (2-pin) AC adapter, 100-240V, 50-60Hz**
- **170W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz**
- **230W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz**

Notes:
1. AC adapter offerings depend on the country.

---

### DESIGN

#### Display

<table>
<thead>
<tr>
<th>Size</th>
<th>Resolution</th>
<th>Touch</th>
<th>Type</th>
<th>Brightness</th>
<th>Surface</th>
<th>Aspect Ratio</th>
<th>Contrast Ratio</th>
<th>Color Gamut</th>
<th>Viewing Angle</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6&quot; FHD (1920x1080)</td>
<td>None</td>
<td>IPS</td>
<td>300 nits</td>
<td>Anti-glare</td>
<td>16:9</td>
<td>700:1</td>
<td>72% NTSC</td>
<td>160°</td>
<td>-</td>
<td>Dolby Vision™, HDR</td>
</tr>
<tr>
<td>15.6&quot; FHD (1920x1080)</td>
<td>None</td>
<td>IPS</td>
<td>500 nits</td>
<td>Anti-glare</td>
<td>16:9</td>
<td>1200:1</td>
<td>72% NTSC</td>
<td>160°</td>
<td>Dolby Vision™, HDR</td>
<td></td>
</tr>
<tr>
<td>15.6&quot; UHD (3840x2160)</td>
<td>None</td>
<td>IPS</td>
<td>600 nits</td>
<td>Anti-glare</td>
<td>16:9</td>
<td>1400:1</td>
<td>100% Adobe® RGB</td>
<td>178°</td>
<td>Dolby Vision, HDR</td>
<td></td>
</tr>
<tr>
<td>15.6&quot; UHD (3840x2160)</td>
<td>Multi-touch</td>
<td>OLED</td>
<td>SDR 400nits, HDR 500nits (peak)</td>
<td>Anti-reflection Anti-smudge</td>
<td>16:9</td>
<td>100000:1</td>
<td>100% DCI-P3</td>
<td>170°</td>
<td>Dolby Vision, HDR</td>
<td></td>
</tr>
</tbody>
</table>

**Color Calibration**
- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

**Touchscreen**
- On-cell touch, supports 10-point touch
- Non-touch

Notes:
1. California Electronic Waste Recycling Fee
   - In California, per state law, Lenovo charges an electronic waste recycling fee on this covered device at the time of sale of the product. For more information, go to https://www.calrecycle.ca.gov/Electronics/Consumer
2. For non-OLED display, HDR is only supported under hybrid mode.

#### Input Device

**Pen**
- Lenovo Pen Pro (for UHD OLED models)
- No support (non-touch display doesn't support pen input)

**Keyboard**
- 6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad

**Keyboard Backlight**
- LED backlight

**UltraNav™**
- 3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad
### Mechanical

#### Dimensions (WxDxH)

<table>
<thead>
<tr>
<th>Models</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch models</td>
<td>375.4 x 252.3 x 25.25-32.2 mm (14.24 x 9.67 x 0.99-1.27 inches)</td>
</tr>
<tr>
<td>Non-touch models</td>
<td>375.4 x 252.3 x 24.5-31.45 mm (14.24 x 9.67 x 0.96-1.24 inches)</td>
</tr>
</tbody>
</table>

#### Weight

<table>
<thead>
<tr>
<th>Models</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHD models</td>
<td>2.74 kg (6.05 lbs)</td>
</tr>
</tbody>
</table>

#### Case Color

Black

#### Case Material

PPS695 + GF 50% (top), PPS + GF (bottom)

---

**Notes:**

1. The system dimensions and weight vary depending on configurations.

### CONNECTIVITY

#### Network

**Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

**WLAN + Bluetooth®**

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

**WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Fibocom L860-GL-16, 4G LTE CAT16, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

#### SIM Card

No SIM card inbox

#### NFC

No support

---

**Notes:**

1. Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitation

### Ports

#### Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 2x Thunderbolt 3 (support data transfer, Power Delivery, and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

#### Optional Ports

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN support models)

---

**Notes:**

1. The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file
attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.

USB 2.0: 480 Mbit/s;
USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;
USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;
USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
Thunderbolt 3/4: 40 Gbit/s

Docking
Docking
Various docking solutions supported via Thunderbolt or USB-C.
For more compatible docking solutions, please visit Docking for ThinkPad® P15 Gen 1

Monitor Cable
Monitor Cable***
- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security
Security Chip**
- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks
Kensington® Security Slot, 3 x 7 mm

Smart Card Reader
- Smart card reader
- No smart card reader

Fingerprint Reader
Touch style fingerprint reader on palm rest, match-on-chip

BIOS Security
- Power-on password
- Supervisor password
- Hard disk password
- Self-healing BIOS

Other Security
- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management
System Management[1]
- Intel vPro
- Non-vPro

Notes:
1. Intel vPro offers a superset of DASH’s defined capabilities.

SERVICE

Warranty
Base Warranty**[1]
• 1-year depot service
• 1-year depot with 2-year system board service (Korea only)
• 1-year limited onsite service
• 3-year (1-yr battery) depot service
• 3-year (1-yr battery) limited onsite service
• No base warranty

Notes:
1. More information of warranty policy, please access https://pcsupport.lenovo.com/warranty

ENVIRONMENTAL

Operating Environment

Temperature
- Operating: 5°C (41°F) to 35°C (95°F)
- Storage and transportation in original shipping packaging: -20°C (-4°F) to 60°C (140°F)
- Storage without package: 5°C (41°F) to 43°C (109°F)

Humidity
- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage and transportation: 5% to 95% at wet-bulb temperature 27°C (81°F)

Altitude
- Maximum altitude (without pressurization): 3048 m (10,000 ft)

Notes:
1. When you charge the battery, its temperature must be no lower than 10°C (50°F).

ACCESSORIES

Bundled Accessories
None

CERTIFICATIONS

Green Certifications

Green Certifications
- EPEAT™ Gold
- ENERGY STAR® 8.0
- RoHS compliant

Other Certifications

MIL-Spec Test
MIL-STD-810G military test passed

ISV Certifications

ISV Certifications
Please visit www.thinkworkstations.com/isv-certifications/

• Feature with ** means that only one offering listed under the feature is configured on selected models.
• Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
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